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(11) **EP 1 316 588 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
05.11.2003 Bulletin 2003/45

(51) Int Cl.7: **C09B 67/22, C09B 29/33,  
C09D 11/02**

(43) Date of publication A2:  
04.06.2003 Bulletin 2003/23

(21) Application number: **02258353.8**

(22) Date of filing: **03.12.2002**

(84) Designated Contracting States:  
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR  
IE IT LI LU MC NL PT SE SI SK TR**  
Designated Extension States:  
**AL LT LV MK RO**

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(30) Priority: **03.12.2001 JP 2001368034**  
**03.12.2001 JP 2001368035**

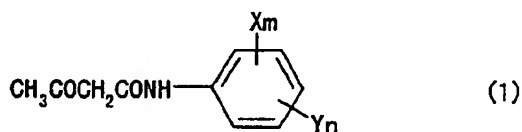
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(54) **Pigment yellow 74 and printing ink composition**

(57) A pigment yellow 74 obtainable by coupling a coupler component comprising 2-methoxyacetoacetanilide and an acetoacetanilide derivative of formula (1):



wherein each X may be the same or different and is  $\text{CONR}_1\text{R}_2$ ,  $\text{SO}_2\text{NR}_1\text{R}_2$ ,  $\text{NHCOR}_1$ ,  $\text{CONH}(\text{CH}_2)_k\text{NR}_1\text{R}_2$  or  $\text{SO}_2\text{NH}(\text{CH}_2)_k\text{NR}_1\text{R}_2$  (in which each of  $\text{R}_1$  and  $\text{R}_2$  is independently a hydrogen atom or an alkyl group, or  $\text{R}_1$  and  $\text{R}_2$  together form a cyclic structure, and  $k$  is an integer of 1 to 4),  $m$  is 1 or 2, each Y may be the same or different and is  $\text{R}_3$ ,  $\text{OR}_3$  (in which  $\text{R}_3$  is a hydrogen atom or an alkyl group),  $\text{COOH}$  or  $\text{SO}_3\text{H}$ , and  $n$  is an integer of 0 to 2, in an amount of 0.1 to 10 mol %, based on the 2-methoxyacetoacetanilide, and a diazo component obtainable by diazotizing 2-methoxy-4-nitroaniline; and a printing ink composition comprising the above pigment yellow 74.

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# EUROPEAN SEARCH REPORT

Application Number  
EP 02 25 8353

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	EP 0 079 303 A (CIBA GEIGY AG) 18 May 1983 (1983-05-18) * claims *	1-7	C09B67/22 C09B29/33 C09D11/02
A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 11, 30 September 1998 (1998-09-30) -& JP 10 158555 A (DAINICHISEIKA COLOR & AMP ; CHEM MFG CO LTD), 16 June 1998 (1998-06-16) * abstract *	1-7	
A	EP 1 054 042 A (CIBA SC HOLDING AG) 22 November 2000 (2000-11-22) * claims *	1-7	
A	US 6 261 354 B1 (VERMOORTELE FRANK ET AL) 17 July 2001 (2001-07-17) * claims *	1-7	
A	US 4 496 481 A (WHEELER IAN R) 29 January 1985 (1985-01-29) * claims; examples *	1-7	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
A	US 4 159 264 A (HAMILTON ALEXANDER ET AL) 26 June 1979 (1979-06-26) * claims *	1,5-7	C09B C09D
A	US 5 024 698 A (SCHWARTZ RUSSELL J ET AL) 18 June 1991 (1991-06-18) * claims *	1,4,5	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 15 September 2003	Examiner Serbetsoglou, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 (03.02.02) (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

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15-09-2003

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0079303	A	18-05-1983	CA 1184704 A1	02-04-1985
			DE 3269679 D1	10-04-1986
			DK 481382 A ,B,	01-05-1983
			EP 0079303 A2	18-05-1983
			JP 1728500 C	19-01-1993
			JP 4012306 B	04-03-1992
			JP 58084873 A	21-05-1983
			US 4457783 A	03-07-1984
JP 10158555	A	16-06-1998	JP 3055673 B2	26-06-2000
EP 1054042	A	22-11-2000	BR 0002478 A	02-01-2001
			CA 2307428 A1	05-11-2000
			EP 1054042 A1	22-11-2000
			JP 2000327943 A	28-11-2000
			US 6361595 B1	26-03-2002
US 6261354	B1	17-07-2001	BE 1011221 A3	01-06-1999
			AU 7327198 A	04-01-1999
			WO 9858026 A1	23-12-1998
			BR 9806749 A	14-03-2000
			EP 0991725 A1	12-04-2000
US 4496481	A	29-01-1985	CA 1202960 A1	08-04-1986
			DE 3174221 D1	30-04-1986
			DK 571181 A ,B,	24-06-1982
			EP 0055218 A2	30-06-1982
			JP 57131256 A	14-08-1982
			KR 8801390 B1	30-07-1988
US 4159264	A	26-06-1979	GB 1547759 A	27-06-1979
			CA 1061334 A1	28-08-1979
			CH 618456 A5	31-07-1980
			DE 2635536 A1	17-02-1977
			FR 2320970 A1	11-03-1977
			IT 1065105 B	25-02-1985
			JP 1266776 C	27-05-1985
			JP 52027433 A	01-03-1977
			JP 59043499 B	22-10-1984
US 5024698	A	18-06-1991	AT 157690 T	15-09-1997
			CA 2078862 A1	23-09-1991
			DE 69127540 D1	09-10-1997
			DE 69127540 T2	22-01-1998
			DK 524941 T3	14-04-1998
			EP 0524941 A1	03-02-1993

EPO FORM P0499

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ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 02 25 8353

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The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

15-09-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5024698 A	ES	2107455 T3	01-12-1997
	FI	923865 A	28-08-1992
	JP	5505412 T	12-08-1993
	WO	9114744 A1	03-10-1991
-----			

EPO FORM P0439

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82